

**Remark**

1. This Office action has been issued in response to amendment filed on 05/16/2011.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Steven Laureanti on 07/21/2011.

**AMENDMENTS TO THE CLAIMS**

A complete listing of the claims is set forth below. Proposed amendments are as follows:

1-28. **(Canceled)**

29. **(Currently Amended)** An electronic commerce system, comprising:

a global content directory server coupled with one or more seller databases over a network, the global content directory server providing a plurality of buyer computers access to the one or more seller databases, the global content directory server comprising:

a storage medium stored therein a schema translation tool comprising:

a storage medium stored therein a mapping module configured to:

receive source schema data and target schema data, the source schema data and the target schema data each comprising a taxonomy comprising a hierarchy of classes into which products are categorized, wherein the target schema data comprises a different taxonomy than the taxonomy of the source schema data, at least the source schema data further comprising a product ontology associated with one or more of the classes, each product ontology

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comprising one or more product attributes, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class;

generate a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of the plurality of buyer computers to graphically associate classes of the source schema data with classes of the target schema data;

communicate the graphical representation to at least one of the plurality of buyer computers; and

associate one or more source classes of the source schema data with one or more target classes of the target schema data; and

a storage medium stored therein an ontology generation module configured to generate a product ontology for each of the target classes, wherein at least one of the target classes is a parent class and the product ontology for each target class is based on the product ontologies of the associated source classes by determining an intersection of the product attributes included in the product ontologies of the target classes.

30. **(Previously Presented)** The system of Claim 29, wherein the mapping module is further configured to:

receive input from at least one of the plurality of buyer computers indicating one or more source classes to be associated with one or more target classes; and

associate the source classes with the target classes in response to the input from a user associated with at least one of the plurality of buyer computers.

31. **(Canceled)**

32. **(Previously Presented)** The system of Claim 29, wherein the source classes are leaf classes of the source schema data.

33. **(Previously Presented)** The system of Claim 29, wherein the ontology generation module is further configured to generate a product ontology for a target class by determining the intersection of the product attributes included in the product ontologies of the associated source classes.

34. **(Canceled)**

35. **(Previously Presented)** The system of Claim 29, wherein:

at least the source schema data further comprises a seller ontology associated with one or more of the classes, each seller ontology comprising one or more attributes associated with one or more sellers of a product; and

the ontology generation module is further configured to generate a seller ontology for each of the target classes based on the seller ontologies of the associated source classes.

36. **(Currently Amended)** The system of Claim 29, wherein:

~~one or more pointers identifying the one or more seller databases are associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class; and~~

the mapping module is further configured to associate the one or more pointers of the source class with one or more target classes associated with the source class.

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37. **(Currently Amended)** A computer-implemented method of translating schema data, comprising:

receiving, by a ~~server~~ computer, source schema data and target schema data, the source schema data and the target schema data each comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, wherein the target schema data comprises a different taxonomy than the taxonomy of the source schema data, at least the source schema data further comprising a product ontology associated with one or more of the classes, each product ontology comprising one or more product attributes, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class;

generating, by the computer, a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of the plurality of buyer computers to graphically associate classes of the source schema data with classes of the target schema data;

communicating, by the computer, the graphical representation to at least one of the plurality of buyer computers;

associating, by the ~~server~~ computer, one or more source classes of the source schema data with one or more target classes of the target schema data; and

generating, by the ~~server~~ computer, a product ontology for each of the target classes wherein at least one of the target classes is a parent class and the product ontology for each target class is based on the product ontologies of the associated source classes by determining an intersection of the product attributes included in the product ontologies of the target classes.

38. **(Previously Presented)** The method of Claim 37, further comprising:

receiving input from at least one of a plurality of buyer computers indicating one or more source classes to be associated with one or more target classes; and

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associating the source classes with the target classes in response to the input from at least one of the plurality of buyer computers.

39. **(Canceled)**

40. **(Previously Presented)** The method of Claim 37, wherein the source classes are leaf classes of the source schema data.

41. **(Previously Presented)** The method of Claim 37, further comprising generating a product ontology for a target class by determining the intersection of the product attributes included in the product ontologies of the associated source classes.

42. **(Canceled)**

43. **(Previously Presented)** The method of Claim 37, wherein:

at least the source schema data further comprises a seller ontology associated with one or more of the classes, each seller ontology comprising one or more attributes associated with one or more sellers of a product; and

the method further comprises generating a seller ontology for each of the target classes based on the seller ontologies of the associated source classes.

44. **(Currently Amended)** The method of Claim 37, wherein:

~~one or more pointers identifying the one or more seller databases are associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class; and~~

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the method further comprises associating the pointers of the source class with one or more target classes associated with the source class.

45. **(Currently Amended)** A non-transitory computer-readable medium embodied with software for translating between schemas, the software when executed using one or more computers is configured to:

receive source schema data and target schema data, the source schema data and the target schemas each comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, wherein the target schema data comprises a different taxonomy than the taxonomy of the source schema data, at least the source schema data further comprising a product ontology associated with one or more of the classes, each product ontology comprising one or more product attributes, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class;

generate a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of the plurality of buyer computers to graphically associate classes of the source schema data with classes of the target schema data;

communicate the graphical representation to at least one of the plurality of buyer computers;

associate one or more source classes of the source schema data with one or more target classes of the target schema data; and

generate a product ontology for each of the target classes wherein at least one of the target classes is a parent class and the product ontology for each target class is based on the product ontologies of the associated source classes by determining an intersection of the product attributes included in the product ontologies of the target classes.

46. **(Previously Presented)** The computer-readable medium of Claim 45, wherein the software is further configured to:

receive input from at least one of a plurality of buyer computers indicating one or more source classes to be associated with one or more target classes; and

associate the source classes with the target classes in response to the input from at least one of the plurality of buyer computers.

47. **(Canceled)**

48. **(Previously Presented)** The computer-readable medium of Claim 45, wherein the source classes are leaf classes of the source schema data.

49. **(Previously Presented)** The computer-readable medium of Claim 45, wherein the software is further configured to generate a product ontology for a target class by determining the intersection of the product attributes included in the product ontologies of the associated source classes.

50. **(Canceled)**

51. **(Previously Presented)** The computer-readable medium of Claim 45, wherein:  
at least the source schema data further comprises a seller ontology associated with one or more of the classes, each seller ontology comprising one or more attributes associated with one or more sellers of a product; and

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the software is further configured to generate a seller ontology for each of the target classes based on the seller ontologies of the associated source classes.

52. **(Currently Amended)** The computer-readable medium of Claim 45, wherein:

~~one or more pointers identifying one or more seller databases are associated with at least one source class, the seller databases including product data associated with one or more products categorized in the source class; and~~

the software is further configured to associate the pointers of the source class with one or more target classes associated with the source class.

53. **(Canceled)**

54. **(Previously Presented)** A electronic commerce system, comprising:

a global content directory server coupled with one or more seller databases over a network, the global content directory server providing a plurality of buyer computers access to the one or more seller databases, the global content directory server comprising:

a storage medium stored therein a schema translation tool comprising:

a storage medium stored therein a mapping module configured to:

receive source schema data and target schema data, the source schema data and the target schema data each comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, wherein the target schema data comprises a different taxonomy than the taxonomy of the source schema data, at least the source schema data further comprising a product ontology associated with one or more of the classes, each product ontology comprising one or more product attributes, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with ~~one or more~~ at



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least one source class[[es]], the one or more seller databases including product data associated with one or more products categorized in the source class[[es]];

generate a graphical representation of the taxonomies of the source schema data and target schema data, the graphical representation allowing at least one of a plurality of buyer computers to graphically associate the classes of the source schema data with classes of the target schema data;

communicate the graphical representation to at least one of the plurality of buyer computers[[:]] and receive input from at least one of the plurality of buyer computers indicating one or more source classes of the source schema data to be associated with one or more target classes of the target schema data;

associate one or more source classes with one or more target classes in response to the input from at least one of the plurality of buyer computers; and

associate the pointers of the source classes with one or more target classes associated with the source class; and

a storage medium stored therein an ontology generation module configured to generate a product ontology for each of the target classes based on the intersection of the product attributes included in the product ontologies of the associated source classes.

55. **(Currently Amended)** A method for translating between schemas, comprising:

receiving, by a ~~server~~ computer, source schema data and target schema data, the source schema data and the target schema data each comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, at least the source schema data further comprising a product ontology associated with one or more of the classes, each product ontology comprising one or more product attributes, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with ~~one or more~~ at least one source class[[es]], the one or more seller databases including product data associated with one or more products categorized in the source class[[es]];

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generating, by the ~~server~~ computer, a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of a plurality of buyer computers to graphically associate the classes of the source schema data with classes of the target schema data;

communicating, by the ~~server~~ computer, the graphical representation to at least one of the plurality of buyer computers[[;]] and receiving, by the ~~server~~ computer, input from at least one of the plurality of buyer computers indicating one or more source classes of the source schema data to be associated with one or more target classes of the target schema data;

associating, by the ~~server~~ computer, one or more source classes with one or more target classes in response to the input from at least one of the plurality of buyer computers;

associating, by the ~~server~~ computer, the pointers of the source classes with one or more target classes associated with the source class; and

generating, by the ~~server~~ computer, a product ontology for each of the target classes based on the intersection of the product attributes included in the product ontologies of the associated source classes.

56. **(Previously Presented)** A non-transitory computer-readable medium embodied with software for translating between schemas, the software when executed using one or more computers is configured to:

receive source schema data and target schema data, the source schema data and the target schema data each comprising a taxonomy comprising a hierarchy of classes into which products may be categorized, at least the source schema data further comprising a product ontology associated with one or more of the classes, each product ontology comprising one or more product attributes, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with ~~one or more~~ at least one source class[[es]], the one or more seller databases including product data associated with one or more products categorized in the source class[[es]];

generate a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of a plurality of buyer computers to graphically associate the classes of the source schema data with classes of the target schema data;

communicate the graphical representation to at least one of the plurality of buyer computers[[;]] and receive input from at least one of the plurality of buyer computers indicating one or more source classes of the source schema data to be associated with one or more target classes of the target schema data;

associate one or more source classes with one or more target classes in response to the input from at least one of the plurality of buyer computers;

associate the pointers of the source classes with one or more target classes associated with the source class; and

generate a product ontology for each of the target classes based on the intersection of the product attributes included in the product ontologies of the associated source classes.

### Allowance

3. Claims 29-30, 32-33, 35-38, 40-41, 43-46, 48-49, 51-52 and 54-56 are allowable.

### Reason for Allowance

4. The cited arts of record, Livesay, Jeffery et al (hereinafter Livesay) US Publication No 20080126265 and Reisman, Richard (hereinafter Reisman) US Patent No. 7406436 in view of Elad, Joseph B. et al (hereinafter Elad) US Patent 7512558 teach schemas mapping.

Claims 29-30, 32-33, 35-38, 40-41, 43-46, 48-49, 51-52 and 54-56 are allowable. Independent claims 29, 37, 45, 54, 55 and 55 are allowable.

Claims 29, 37 and 45 are allowable because the cited arts of record, Livesay, Jeffery et al (hereinafter Livesay) US Publication No 20080126265 and Reisman, Richard (hereinafter Reisman) US Patent No. 7406436 in view of Elad, Joseph B. et al (hereinafter Elad) US Patent 7512558 do not explicitly disclose, teach, or suggest the claimed limitations of Schema mapping (in combination with all other features in the claim),

, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class;

generate a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of the plurality of buyer computers to graphically associate classes of the source schema data with classes of the target schema data; communicate the graphical representation to at least one of the plurality of buyer computers; and

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associate one or more source classes of the source schema data with one or more target classes of the target schema data;

a storage medium stored therein an ontology generation module configured to generate a product ontology for each of the target classes, wherein at least one of the target classes is a parent class and the product ontology for each target class is based on the product ontologies of the associated source classes by determining an intersection of the product attributes included in the product ontologies of the target classes.

Claims 54, 55 and 56 are allowable because the cited arts of record, Livesay, Jeffery et al (hereinafter Livesay) US Publication No 20080126265 and Reisman, Richard (hereinafter Reisman) US Patent No. 7406436 in view of Elad, Joseph B. et al (hereinafter Elad) US Patent 7512558 do not explicitly disclose, teach, or suggest the claimed limitations of Schema mapping (in combination with all other features in the claim),

, at least the source schema data further comprising one or more pointers identifying one or more seller databases and associated with at least one source class, the one or more seller databases including product data associated with one or more products categorized in the source class;

generate a graphical representation of the taxonomies of the source schema data and the target schema data, the graphical representation allowing at least one of the plurality of buyer computers to graphically associate classes of the source schema data with classes of the target schema data;

generate a product ontology for each of the target classes based on the intersection of the product attributes included in the product ontologies of the associated source classes.

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5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAREK CHBOUKI whose telephone number is (571)270-3154. The examiner can normally be reached on Mon-Fri 8:00 am to 6:00 pm EST.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Neveen Abel-Jalil can be reached at 571-2724074. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TAREK CHBOUKI/

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